



THE PORT AUTHORITY
OF NY & NJ

CONFORMED DRAWING
09/25/96
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ORIGINAL SIGNED & SEALED BY
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LESLIE E ROBERTSON
ASSOCIATES, PLLC
CONSULTING ELECTRICAL ENGINEERS
IN EAST WITH PERMIT
NEW YORK STATE ELEC. ENG. NO. 10000
NEW YORK STATE ELEC. ENG. NO. 10000

No. Date Revision Approved

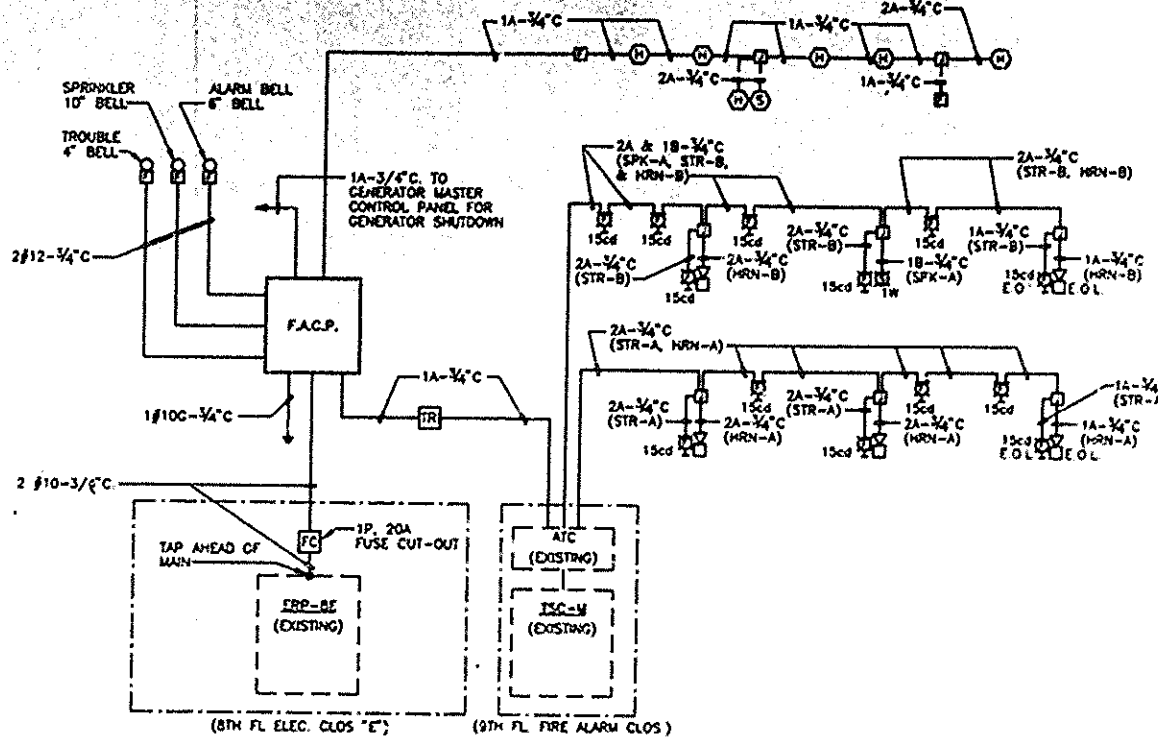
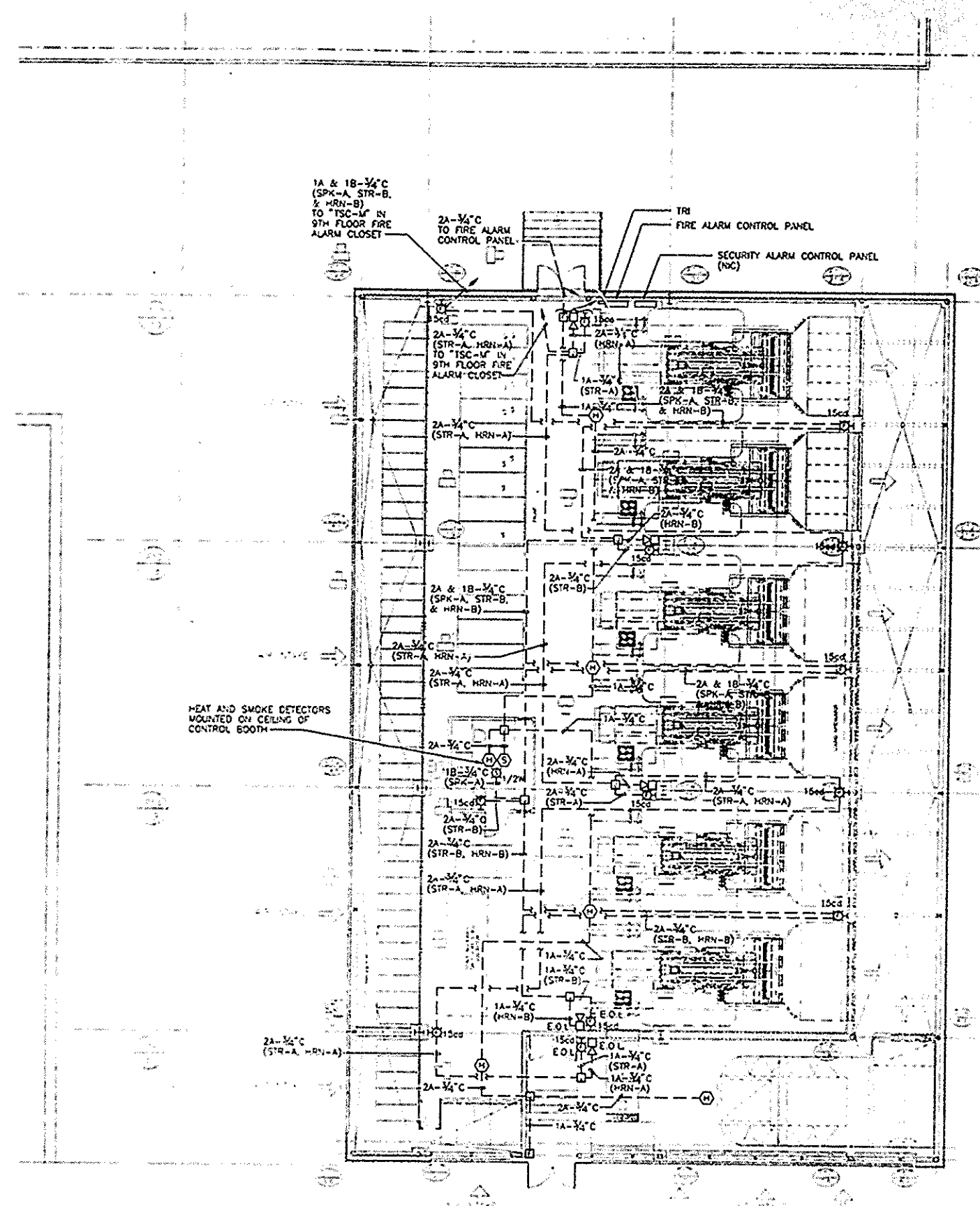
Engineering Department
Design Divisions

STANDBY POWER
5 WORLD TRADE CENTER

ELECTRICAL
GENERATOR ROOM
FIRE ALARM

The drawing is subject to conditions in contract documents, specifications, and methods of construction. It is not to be used for any other purpose without the written consent of the Engineer.

PN: WJR
Designed by: Drawn by: Check by:
Date: 11/17/97 AS NOTED
Contract Number: Drawing Number:
WTC-945071 E2-02



STROBE CIRCUIT/LOADING TABLE				
STROBE TYPE AND RATING	TYPE	7500 CURRENT IN (AMPS (A))	0.06 CURRENT PER CIRCUIT (AMPS)	CIRCUIT LENGTH (FT)
QUANTITIES OF STROBES PER CIRCUIT	STR-A	6	0.48	300
	STR-B	7	0.56	290
GRAND TOTAL			1.04	590

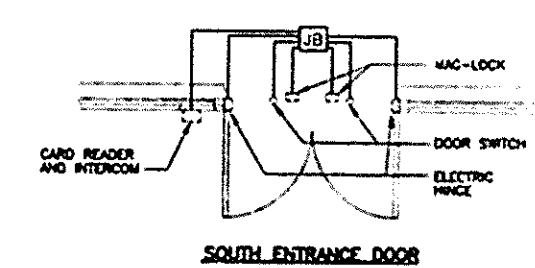
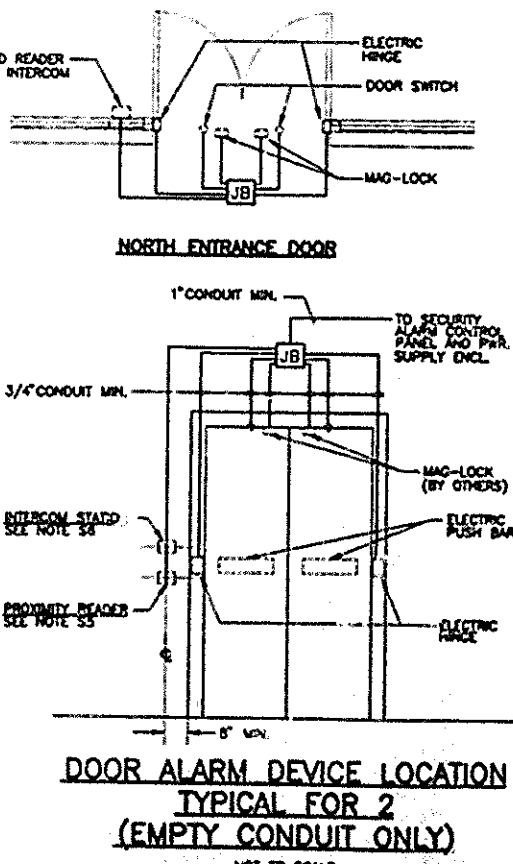
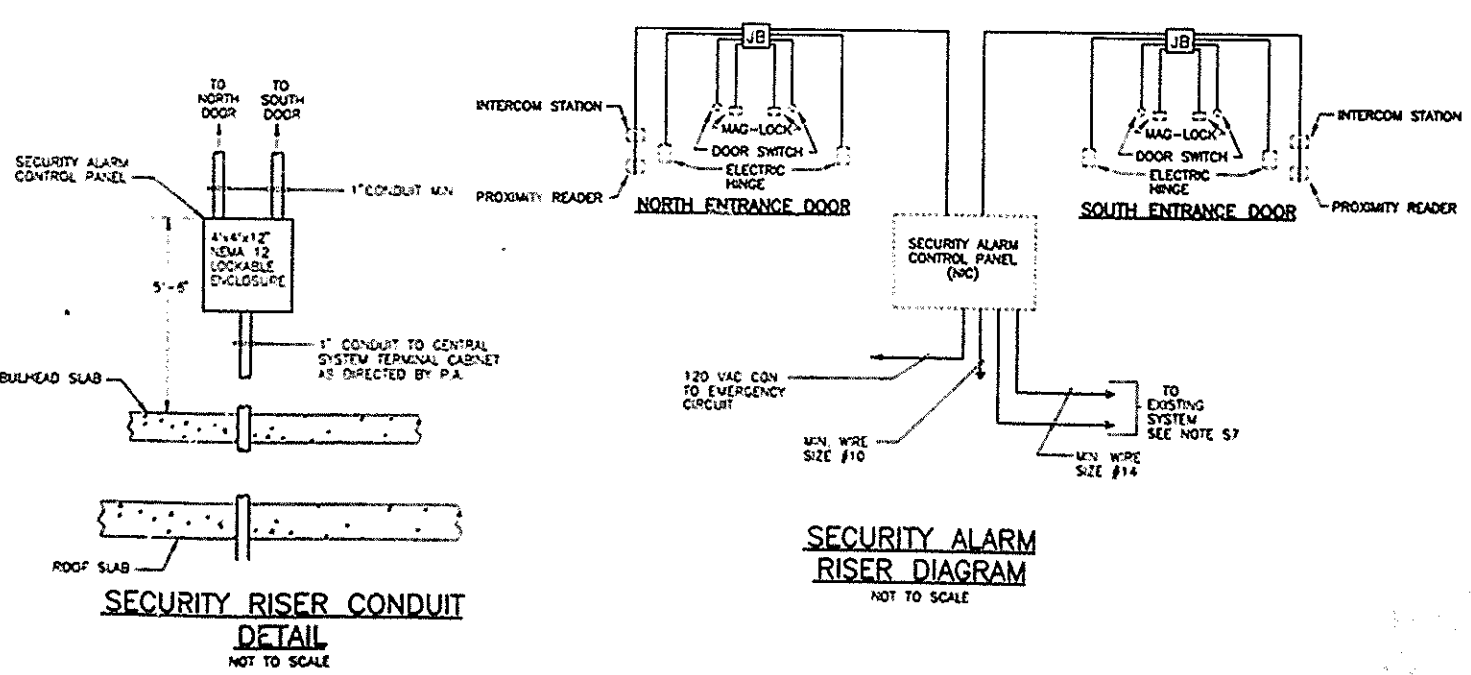
SPEAKER CIRCUIT/LOADING TABLE				
SPEAKER TAP/DB SETTING	(WATTS)	1/2	TOTAL POWER (WATTS)	CIRCUIT LENGTH (FT)
	65	87		
QUANTITIES OF SPEAKERS PER CIRCUIT	SPKR-A	1/2	1/2	150

HORN CIRCUIT/LOADING TABLE			
HORN DB SETTING	(/AMPS)	CURRENT PER CIRCUIT (AMPS)	CIRCUIT LENGTH (FT)
	DB		
QUANTITIES OF HORNS PER CIRCUIT	HRN-A	3	1.8
	HRN-B	2	1.2

- LEGEND**
- 2A OR B NUMBER OF CABLES
- TYPE OF CABLE
- 2 #14 AWG, 2500V, 600V SHIELDED TWISTED PAIR TEFELON CABLE, CLASS "E" & BSA APPROVED N.Y.C. FOR LOCAL LAW #5
- 2 #14 AWG, 200V, 600V UNSHIELDED TWISTED PAIR TEFELON CABLE, CLASS "E" AND BSA APPROVED N.Y.C. FOR LOCAL LAW #5
- XXX-XXX ALD LOOP DEVICE ADDRESS, FIRST THREE DIGIT REPRESENT NETWORK/LOOP ADDRESS (AS DIRECTED BY ENGINEER), AND LAST THREE DIGIT REPRESENT DEVICE ADDRESS
- 1500V FLUSH MOUNTED STROBE WHEEL LOCK, CANDLE RATING AS INDICATED
- 1500V - P55-2415W-FR
- 1500V - P55-2415W-FR
- 1500V - P55-2415W-FR
- NO SUBSTITUTIONS
- POLARIZED ELECTRONIC HORN PYROPHONICS MODEL SEA-3 NO SUBSTITUTIONS
- ADDRESSABLE PULL STATION, PYROPHONICS MODEL P55-1052 METAL SURFACE MOUNTED, BACKBOX MS-50 CLASS "E" WITH WHITE STRIP NO SUBSTITUTIONS FURNISHED BY PORT AUTHORITY
- WALL MOUNTED SQUARE SPEAKER WHEEL LOCK MODEL #170-R WITHOUT SUBSTITUTION TAP SETTING AS INDICATED WITH BACK BOX #503
- ADDRESSABLE NON-IONIZING HIGH VELOCITY SMOKE DETECTOR PYROPHONICS MODEL P55-111 WITH BACK BOX #503 NO SUBSTITUTIONS FURNISHED AND INSTALLED BY CONTRACTOR
- OPEN AREA HEAT DETECTOR - RATE COMPENSATION - 200FT PYROPHONICS MODEL P55-1000L NO SUBSTITUTIONS FURNISHED AND INSTALLED BY CONTRACTOR
- PYROPHONICS MODEL P55-1050 DUAL ADDRESSABLE INTERFACE SWITCH MODULE MOUNTED IN 6" x 6" x 4" PULLBOX FURNISHED AND INSTALLED BY CONTRACTOR
- END OF LINE (1/2 WATT 24K OHM) RESISTOR FURNISHED AND INSTALLED BY CONTRACTOR
- SQUARE PULL BOX 4 1/2" x 6" - UNLESS OTHERWISE NOTED
- EXISTING TERMINAL STRIP CABINET
- EXISTING ADDRESSABLE TERMINAL CABINET

- FIRE ALARM (F.A.) NOTES:**
- ALL FIRE ALARM CABLES SHALL BE TYPE FPLP-LR TWISTED PAIR #14 GAUGE SOLID COPPER (U.O.L.) 2500V, 600V SHIELDED (EXCEPT FOR SPEAKERS WHICH USE UNSHIELDED) INSULATED CONDUCTORS CLASS "E" BSA AND N.Y.C. APPROVED FOR N.Y.C. LOCAL LAW #5 PER TEFELON OR APPROVED (EQU.) INSULATION AND CONDUCTORS COLORED BLACK AND RED. ALL CABLES TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR.
 - ALL CONDUITS SHALL BE RIGID STEEL, HOT DIPPED GALVANIZED WITH THREADED FITTINGS, UNLESS OTHERWISE NOTED.
 - ALL RACEWAY, ENCLOSURES AND BOXES SHALL BE GROUNDED IN AN APPROVED MANNER.
 - GROUND BUSHINGS SHALL BE INSTALLED ON ALL CONDUITS PENETRATING ENCLOSURES.
 - ALL PENETRATIONS MADE IN EXISTING FIRE ALARM EQUIPMENT SHALL BE MADE IN PRESENCE OF THE INSURER.
 - SHAPING AND LABELING OF CABLES AT INTERFACE, INET, TSC, ATC AND NTC CABINETS WILL BE PERFORMED BY THE CONTRACTOR. THIS WORK SHALL BE DONE IN PRESENCE OF THE ENGINEER. FINAL CONNECTIONS TO INTERFACE, INET, TSC, ATC AND NTC CABINETS WILL BE MADE BY OTHERS.
 - PATCH AND SEAL ALL CONDUITS PASSING THRU WALLS, FIRE RATED CONSTRUCTION AND PLENUMS WITH THERMOFLEX OR ADE PLUME-SEAL.
 - TEST ALL REELS OF FIRE ALARM CABLE FOR CONTINUITY AND SHORTS, PRIOR TO INSTALLATION.
 - CONTRACTOR SHALL USE BRADY LABELS (PART# 251-222-1) FOR LABELING OF ALL CONDUCTORS.
 - ALL BOX COVERS, CONDUIT COVERS, ETC. SHALL BE PAINTED RED, USE "X" STENCIL AND WHITE PAINT ON ALL COVERS ADDING "5" FOR 5 WTC SYSTEM DESIGNATION.
 - CONTRACTOR SHALL PERFORM PROGRAMMING OF ALL ADDRESSABLE DEVICES, FINAL CONFIGURATION OF ADDRESSERS SHALL BE AS DIRECTED BY THE ENGINEER PRIOR TO PROGRAMMING DEVICES.
 - FINAL CONNECTIONS TO THE BULKHEAD FIRE ALARM AND TSC WILL BE MADE BY OTHERS. CONTRACTOR TO LEAVE A 1/2" OF CABLE ENTER THE TSC CABINET. THIS WORK SHALL BE DONE IN PRESENCE OF THE ENGINEER.

5 WTC STANDBY GENERATOR BULKHEAD
FIRE ALARM AND SECURITY SYSTEM



- SECURITY ALARM NOTES:**
- FOR GENERAL NOTES AND SYMBOL LIST SEE DRAWING E2-01.
 - ALL SECURITY RACEWAY INSTALLATION SHALL BE COORDINATED WITH THE P.A.
 - CONTRACTOR TO OBTAIN FROM THE P.A. DEVICE OUTLET BOXES FOR VARIOUS TYPE OF SECURITY DEVICES. DEVICE OUTLET SHALL MEET THE REQUIREMENTS OF DEVICE TO BE INSTALLED.
 - ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL ALL EMPTY CONDUITS WITH DRAG WIRE. TERMINATE ALL CONDUITS AT DEVICE OUTLET BOXES, COORDINATE LOCATION WITH INSTALLATION DRAWINGS TYPICAL FOR ALL DEVICES.
 - TERMINATE EMPTY CONDUIT AT LOCATION OF OUTLET BOX, PROXIMITY READER OUTLET BOX(ES) LOCATION AT 34" AFF. ROUTE CONDUIT TO JUNCTION BOX ABOVE DOOR.
 - TERMINATE EMPTY CONDUIT AT LOCATION OF OUTLET BOX, INTERCOM STATION OUTLET BOX(ES) LOCATION AT 60" AFF. ROUTE CONDUIT TO JUNCTION BOX ABOVE DOOR.
 - SECURITY CONTROL CABINET IS LOCATED AT 9th FLOOR TELEPHONE CLOSET "E" AT COLLUM (E-36). EMERGENCY CIRCUITS TO BE OBTAINED FROM SEPARATE BREAKER IN CLOSET "F" PANEL, EMP-07 AT 9th FLOOR.

